

First Hit

L30: Entry 27 of 41

File: PGPB

Sep 26, 2002

DOCUMENT-IDENTIFIER: US 20020138407 A1  
TITLE: Automated global risk management

Abstract Paragraph:

A computerized risk management method and system for facilitating analysis and quantification of risk associated with a financial transaction. An automated global risk management system maintains a database relating risk variables including world events government advisories, and other information sources with potential risk for a financial institution. The system generates a risk quotient or other rating based upon a weighted algorithm applied to the criteria, wherein the risk quotient is indicative of risk associated with a financial transaction or account. The quotient can be monitored on a periodic basis, during the course of a transaction, or on demand. Actions commensurate with a risk quotient can be presented to a financial institution to help the institution properly manage risk associated with a particular entity or transaction. A log or other stored history can be created such that utilization of the system can mitigate adverse effects relating to a problematic account.

Summary of Invention Paragraph:

[0001] This invention relates generally to a method and system for facilitating the identification, investigation, assessment and management of legal, regulatory financial and reputational risks ("risks"). In particular, the present invention relates to a computerized system and method for banks and non-bank financial institutions to access information compiled on a worldwide basis, wherein the information is conducive to quantifying and managing financial, legal, regulatory and reputational risk.

Summary of Invention Paragraph:

[0002] Bank and non-bank financial institutions, including: investment banks; merchant banks; commercial banks; securities firms, including broker dealers securities and commodities trading firms; asset management companies, hedge funds, mutual funds, credit rating funds, securities exchanges and bourses, institutional and individual investors, law firms, accounting firms, auditing firms and other entities, hereinafter collectively referred to as "financial institutions," typically have few resources available to them to assist in the identification of present or potential risks associated with business transactions. Risk can be multifaceted and far reaching. Generally, personnel do not have available a mechanism to provide real time assistance to assess a risk factor or otherwise qualitatively manage risk. In the event of problems, it is often difficult to quantify to regulatory bodies, shareholders, newspapers and other interested parties, the diligence exercised by the financial institution to properly identify and respond to risk factors. Absent a means to quantify good business practices and diligent efforts to contain risk, a financial institution may appear to be negligent in some respect.

Summary of Invention Paragraph:

[0003] Risk associated with maintaining an investment account can include factors associated with financial risk, legal risk, regulatory risk and reputational risk. Financial risk includes factors indicative of monetary costs that the financial

institution may be exposed to as a result of opening a particular account and/or transacting business with a particular client. Monetary costs can be related to fines, forfeitures, costs to defend an adverse position, or other related potential sources of expense. Regulatory risk includes factors that may cause the financial institution to be in violation of rules put forth by a regulatory agency such as the Securities and Exchange Commission (SEC). Reputational risk relates to harm that a financial institution may suffer regarding its professional standing in the industry. A financial institution can suffer from being associated with a situation that may be interpreted as contrary to an image of honesty and forthrightness.

Summary of Invention Paragraph:

[0005] Compliance officers and other financial institution personnel typically have few resources available to assist them with the identification of present or potential global risks associated with a particular investment or trading account. Risks can be multifaceted and far reaching. The amount of information that needs to be considered to evaluate whether an international entity poses a significant risk or should otherwise be restricted, is substantial.

Summary of Invention Paragraph:

[0006] However, financial institutions do not have available a mechanism which can provide real time assistance to assess a risk factor associated with an international entity, or otherwise qualitatively manage such risk. In the event of investment problems, it is often difficult to quantify to regulatory bodies, shareholders, newspapers and/or other interested parties, the diligence exercised by the financial institution to properly identify and respond to risk factors. Absent a means to quantify good business practices and diligent efforts to contain risk, a financial institution may appear to be negligent in some respect.

Summary of Invention Paragraph:

[0007] What is needed is a method and system to draw upon information gathered globally and utilize the information to assist with risk management and due diligence related to financial accounts. A new method and system should anticipate offering guidance to personnel who interact with clients and help the personnel identify high risk situations. In addition, it should be situated to convey risk information to a compliance department and be able to demonstrate to regulators that a financial institution has met standards relating to risk containment.

Summary of Invention Paragraph:

[0009] A log or other stored history can be created such that utilization of the system can mitigate adverse effects relating to a problematic account. Mitigation can be accomplished by demonstrating to regulatory bodies, shareholders, news media and other interested parties that corporate governance is being addressed through tangible risk management processes. In summary fashion, the present invention includes a method and system for identifying risks associated with the domestic and global commercial activities of financial firms including, for example, a transactions involving: financial institution, an insurance company, a credit card issuer, a trading exchange, a government regulator, a law enforcement agency, an investment and merchant bank, public and private financing, commodities and securities trading, commercial and consumer lending, asset management, the ratings of corporations and securities, public and private equity investments, public and private fixed income investments, the listing of companies on securities exchanges and bourses, employee screening and hereinafter collectively referred to as "Financial Transactions."

Detail Description Paragraph:

[0023] Referring now to FIG. 1 a block diagram of one embodiment of the present invention is illustrated. A Global Risk Management (GRM) system 106, receives information relating to entities that are restricted, controlled, or otherwise marked as high risk. The information can be received for example from a list generated by the Office of Foreign Assets Control (OFAC) 101 including their

sanction and embargo list, a list generated by the U.S. Commerce Department 102, a list of international "kingpins" generated by the U.S. White House 103, U.S. regulatory actions 104 or other information source 105 such as a foreign government, government, U.S. adverse business-related media reports, U.S. state regulatory enforcement actions, International regulatory enforcement actions, International adverse business-related media reports, a list of politically connected individuals and military leaders, list of U.S. and international organized crime members and affiliates or a list of recognized high risk countries. Other information received may indicate that an entity is not high risk. For example an entity may be a corporation from a G-7 country that is traded on a major exchange.

Detail Description Paragraph:

[0025] A decision by a financial institution concerning whether to pursue a financial transaction can be dependent upon many factors. A multitude and diversity of risks related to the factors may need to be identified and evaluated. In addition, the weight and commercial implications of the factors and associated risks can be interrelated. The present invention can provide a consistent and uniform method for business, legal, compliance, credit and other personnel of financial institutions to identify and assess risks associated with a transaction. A GRM system 106 allows investment activity risks to be identified, correlated and quantified by financial institutions thereby assessing legal, regulatory, financial and reputational exposure.

Detail Description Paragraph:

[0027] A financial institution can integrate a GRM system 106 as part of legal and regulatory oversight for various due diligence and "know your customer" obligations imposed by regulatory authorities. The GRM system 106 can facilitate detection and reporting of potential violations of law as well as address the "suitability" of a financial transaction and/or the assessment of sophistication of a customer. Similarly, the GRM system 106 can support a financial institution's effort to meet requirements regarding the maintenance of accurate books and records relating to their financial transactions and affirmative duty to disclose material issues affecting an investor's decisions.

Detail Description Paragraph:

[0028] An institution that may implement, or make use of the present invention can include an investment bank, a merchant bank, a commercial bank, a security firm, an asset management company, a hedge fund, a mutual fund, a credit rating agency, a security exchange and bourse, an institutional or individual investor, an auditing firm, a law firm, or other institution who may be involved with financial transactions. Similarly, financial investments can include investment and merchant banking, public and private financing, commodities and a securities trading, commercial and consumer lending, asset management, rating of corporations and securities, public and private equity investment, public and private fixed income investment, listing to companies on a securities exchange and bourse, employee screening, auditing of corporate or other entities, legal opinions relating to a corporate or other entity, or other business related transactions.

Detail Description Paragraph:

[0030] Information relating to financial, legal, regulatory and/or reputational risk is received into a computer system. The computer system applies an algorithm that weights the input information and calculates a risk quotient or similar score or rating. The risk quotient can include, for example, a scaled numeric or alpha-numeric value.

Detail Description Paragraph:

[0032] In the case of an automated account opening, such as, for example, opening an online account, questions can be presented to the account opener by a programmable robot via a GUI. Questions can relate to a particular type of account, a particular type of client, types of investment, or other criteria. Other prompts

or questions can aid a financial institution ascertain the identity of an account holder and an account's beneficial owner. If there is information indicating that a proposed account is beneficially owned by a high risk entity, the financial institution may not wish to open an account if it is unable to determine the identity of the high risk entity and his or her relationship to the account holder.

Detail Description Paragraph:

[0035] The GRM risk assessment and GRM risk quotient 108 can subsequently be made available by the GRM system 106 to a financial institution 111 or personnel interested in the transaction 107. In one embodiment, the GRM risk quotient can be made available in real time. A real time assessment can allow the GRM system 106 to provide a suggested action, which can be taken to address a particular risk quotient. The GRM system 106 can also take into consideration input information in order to generate a suggested action. A suggested action may include; for example, limiting the scope of a transaction entered into, discontinuing a transaction associated with high risk participants, notifying authorities, or other appropriate actions.

Detail Description Paragraph:

[0037] The GRM system 106 can also aggregate risk quotient scores 108 to assess a level of GRM risk being tolerated by the institution. Other calculations, such as, for example, the sum, mean, average, or other calculation can be made by the GRM system 106 to further analyze GRM risk at a financial institution. If desired, a rating can be applied to an institution according to the amount for GRM risk tolerated by the institution, such as, for example, the average risk tolerated.

Detail Description Paragraph:

[0043] In addition to the types and sources of information listed previously that can provide indications of high risk, the financial institution or compliance entity can receive information that relates to requests to involve a financial institution that is not accustomed to foreign account activity; requests for secrecy or exceptions to Bank Secrecy Act requirements, routing through a secrecy jurisdiction, or missing wire transfer information; unusual and unexplained fund or transaction activity, such as fund flow through several jurisdictions or financial institutions, use of a government-owned bank, excessive funds or wire transfers, rapid increase or decrease of funds or asset value not attributable to the market value of investments, high value deposits or withdrawals, wires of the same amount of funds into and out of the account, and frequent zeroing of account balance; and large currency or bearer transactions, or structuring of transactions below reporting thresholds. Other information can include activities the GRM is involved in, associates of the GRM, governmental changes, or other related events.

Detail Description Paragraph:

[0048] A GRM risk quotient can be calculated 313 by weighting the information received according to its importance in determining high risk activities, such as the likelihood of illegal or unethical dealings. Calculating a GRM risk quotient can be accomplished by assigning a numerical value to each field of information, wherein the numerical value is representative of the risk associated with a particular piece of information. For example, it may be determined in one case that a government official from a G-7 country trading equities in a public company from a G-7 country poses minimal risk. Therefore this information from the first case is assigned a low numerical value, or even a negative numerical value. In a second case, an individual who appears on a list generated by the FATF and is attempting to transact in a corporate holding company may be viewed as a high risk. In another case, information conveying this high risk may be assigned a high numerical value. In addition, a weight can be assigned to a GRM risk category to which the information is assigned. Therefore a designated country may receive a higher weight than the position held, or vice versa. A Risk Quotient can be calculated by multiplying a weighted numerical value of the specific information times the

category weighting.

Detail Description Paragraph:

[0049] For example, information received may indicate an account holder is a high ranking finance official from a G7 country. The ownership structure of a company the account holder wishes to transact is a public entity. A public entity may receive a numerical value of -5 because it is a relatively low risk ownership structure. In addition, this information may be included in a Company Profile category, wherein the Company Profile is assigned a category weighting of 3. Therefore, the net\_score for this ownership structure is -5 times 3 or -15. Similarly the account holder being a high ranking official from a G-7 country may also receive a low number such as 1. The GRM risk quotient for the account holder would be 1 times 3, or 3. All scores within the Company Profile can be summed to calculate a GRM risk quotient. In this case the GRM risk quotient is -15+3 which equals -12, indicating a low risk. Weighted risk scores from all associated categories can be summed to calculate a total Risk Quotient Score 108.

Detail Description Paragraph:

[0050] A suggested action can be generated that is responsive to the Risk Quotient 314. For example, in response to a high risk score a suggested action may be to not proceed with a transaction, or even to notify an authority. In response to a low risk score, the GRM server 210 may respond by completing transactions as usual. Intermediate scores may respond by suggesting that additional information be gathered, that transactions for this account be monitored, or other interim measures.

Detail Description Paragraph:

[0051] The GRM server 210 can also store, or otherwise archive GRM data and proceedings. For example the GRM server 210 can store information received, a Risk Quotient generated, and also the suggested actions to be taken 315. This information can be useful to quantify corporate governance and diligent efforts to address high risk situations. Accordingly, reports quantifying GRM risk management procedures, executed due diligence, corporate governance or other matters can be generated 316.

Detail Description Paragraph:

[0053] In one embodiment, automated monitoring software can run in the background of a normal transaction program and screen data traversing an application. The screened data can be processed to determine key words wherein the key words can in turn be presented to the GRM server 210 as risk variables. The GRM server 210 will process the key words to identify entities or other risk variables and score those variables according to weighted criteria. Monitoring software can also be installed to screen data traversing a network or communications link.

Detail Description Paragraph:

[0054] The user will receive back information relating to risk associated with conducting a transaction involving the submitted variables 412. The user will also receive a GRM Risk Quotient 413. As addressed more completely above, the risk quotient is typically a scaled numerical score based upon values for weighted criteria. It will represent a magnitude of risk associated with a particular transaction and can be based upon the participants involved in a transaction, the type of transaction, the state sovereignties involved, an amount of money involved in the transaction, or other risk variables.

Detail Description Paragraph:

[0057] Referring now to FIG. 5, an exemplary GUI for displaying information related to GRM is illustrated 500. The GUI can include areas prompting for information, such as in the form of a key word or a question 501. Areas can also be included for an appropriate response 506. The area for an appropriate response 506 can, for example, receive text, allow a selection from choices proffered, or otherwise

receive data into the GRM server 210. A programmable user interactive device, such as a checkbox, X field, yes/no field or other device 503-505 can also be utilized to indicate an answer, or otherwise input information. Other programmable devices, such as programmable icons, hyperlinks, push buttons or other devices 502 can also be utilized to execute a particular function. A category weighting area 507 can also be indicated on the GUI 500. Typically the weighting will be predetermined. However, if desired the weighting can be modified by a user such that a weighting value, such as a numerical value, will be utilized to calculate a risk quotient. The GRM GUI 500 can also include an area for displaying a quotient score relating to the transaction 508.

**CLAIMS:**

10. The method of claim 1 wherein the information received comprises the identity of a high risk entity and the high risk entity's relationship to an account holder.

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**End of Result Set**



Generate Collection

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L11: Entry 1 of 1

File: USPT

Sep 22, 1998

DOCUMENT-IDENTIFIER: US 5812988 A

TITLE: Method and system for jointly estimating cash flows, simulated returns, risk measures and present values for a plurality of assets

Brief Summary Text (80):

Lambert's process is very different from the present invention because the present invention: (1) does not use coefficients for the types of variables specified in Lambert's invention, (2) does not directly use regression on past values of any variables although regression on prior values may be used indirectly to estimate inputs to this claimed invention; (3) to the extent that the present invention uses predicted values for the types of variables specified in Lambert's invention (e.g., earnings and dividends), it uses them in a discounting process, not in a process whereby they are multiplied by coefficients from regressions on prior values to determine current asset values; and (4) some of the variables used as input to Lambert's process (e.g., prior stock prices and trading volume) need not be used in the present invention application because the models are so dissimilar.

Detailed Description Text (55):

In Step 200, n additional sets of estimates are generated for each of the economic variables input in Step 190. Thus, after Step 200 is completed, n+1 sets of estimates for the economic variables will have been generated. These additional sets of estimates may be determined in relation to the initial economic estimates input in Step 190. For example, if the risk-free rate entered in Step 190 is 3.0% annually, Step 200 might pseudo-randomly generate different rates of 3.3%, 3.5%, etc. based on the distribution of the risk-free rate entered in Step 190 and also based on the correlations entered in Step 190. Additional economic estimates may be generated: (1) as of the current date, such that different estimates could be expected immediately; (2) as of 30 days from the current date, such that different estimates could be expected to coincide with the 30-day T-bill rate, which is often considered the risk-free rate, or (3) as of some later date.

Detailed Description Text (56):

In Step 210 an initial set of cash flows is generated, beginning with the first bond, usually for the life of the bond. Those projected cash flows are then adjusted for the inflation as input in Step 190 (which, as discussed, may include a short-term inflation rate, a long-term inflation rate, and an anchor year, which defines the transition time between the sort-term and long-term inflation rates). The process then continues to Step 220, where an additional set of inflation-adjusted cash flows for the first bond using the first additional set of economic variables is generated in Step 200. In Step 230, the process continues looping back to Step 220 until n additional sets of inflation-adjusted cash flows for the first bond have been generated relating to the n additional sets of economic variable estimates input in Step 200. Thus, when the process continues for the first time from Step 230 to Step 240, n+1 inflation-adjusted cash flows will have been determined relating to the first bond. A similar process of generating an initial and n additional sets of inflation-adjusted cash flows for each of the remaining bonds is performed by control looping from Step 240 to Step 210 after n+1 cash flows have been generated for the first bond. Thus, the second time the process

continues to Step 240, n+1 inflation-adjusted cash flows will have been generated for the second bond. When n+1 inflation-adjusted cash flows have been generated for each of the bonds, the process continues from Step 240 to Step 250.



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End of Result Set



Generate Collection

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L6: Entry 1 of 1

File: USPT

Sep 22, 1998

DOCUMENT-IDENTIFIER: US 5812988 A

TITLE: Method and system for jointly estimating cash flows, simulated returns, risk measures and present values for a plurality of assets

Brief Summary Text (37):

It is possible to estimate an asset's discount rate using qualitative judgment. For example, an analyst may wish to value a small firm at a time when 30-day U.S. Treasury bills pay a 6% annual interest rate. This rate is often referred to as the risk-free interest rate for two reasons. First, there is so little chance the U.S. Government will default that, for practical purposes, default risk is zero. Second, the interest-rate risk (a bond declines in value if interest rates rise) is very low because the bill matures in 30 days. The NPV of a Treasury bill is determined by discounting the principal payment back to the present, but the discount period is so short (30 days) that changes in the discount rate have little effect on a 30-day Treasury bill's value. Thus, for practical purposes, a 30-day Treasury bill is free of both default risk and interest-rate risk.

Detailed Description Text (51):

In Step 162, the value of each of the bonds is compared to its respective market price (it is possible to use assets other than bonds in this step, but because of their known cash flows, bonds or other fixed income instruments are probably preferable to other assets). If the value of any particular bond, or a subset of all the bonds, significantly differs from the market value, this is an indication that the long term inflation estimates used by the process were likely inaccurate. Thus, in Step 162 if a measure of the difference between the value of each of the bonds and their market value (such as the sum of squares of individual differences) is greater than a predetermined amount, the process continues to Step 164 where the long term inflation rates used by the process are adjusted and the process loops back to Step 70. If in Step 162 the measure of the difference between the value of each of the bonds and their market value is less than a predetermined amount, the process continues at Step 170 where the risk measure determined by the process may be printed or otherwise displayed to the user, with other useful information including asset prices, estimated inflation, estimated risk premiums, estimated standard deviations for each bond (which may be useful for evaluating options) and, if desired, over and under valued assets. In Step 172, the portfolio may be created (using the modem or telephone to buy/sell assets) based on the various outputs of Step 170. Thus, bonds in a portfolio determined to be over priced might be sold and those not in the portfolio that were determined to be underpriced might be purchased. Similarly, if the risk measure of a portfolio was deemed to be unacceptably high, such as a portfolio having a .beta. of 2.0 when a .beta. of 1.5 was the desired risk level, certain bonds in the portfolio with .beta.s above 1.5 might be sold and certain bonds not in the portfolio with .beta.s below 1.5 might be purchased. Thus, the portfolio can be modified or created based on some target risk measure. Because the relationship is linear, .beta.s are additive. Thus, if one buys \$10,000 of a bond with a .beta. of 1.0 and \$10,000 of a bond with a .beta. of 2.0, the portfolio .beta. is 1.5.